"Comb"microstructure vs "Spiral"

Charge sharing in Stripixels
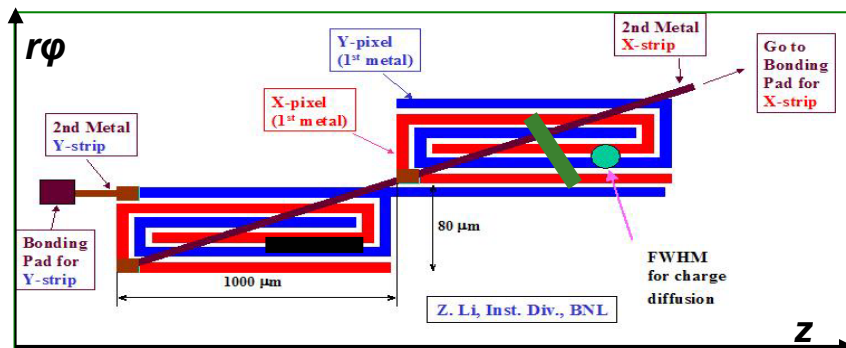
V. L. Rykov

Preamble:

Good track
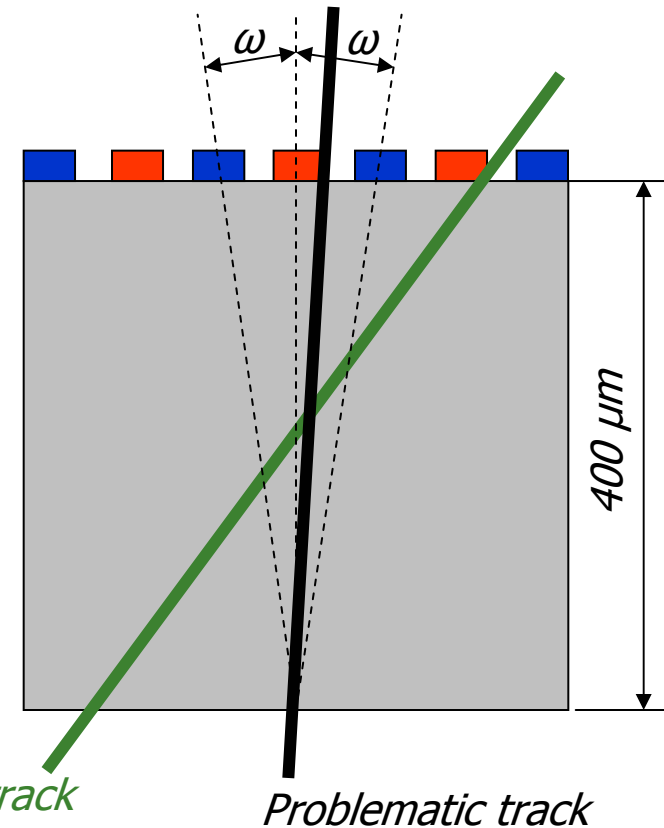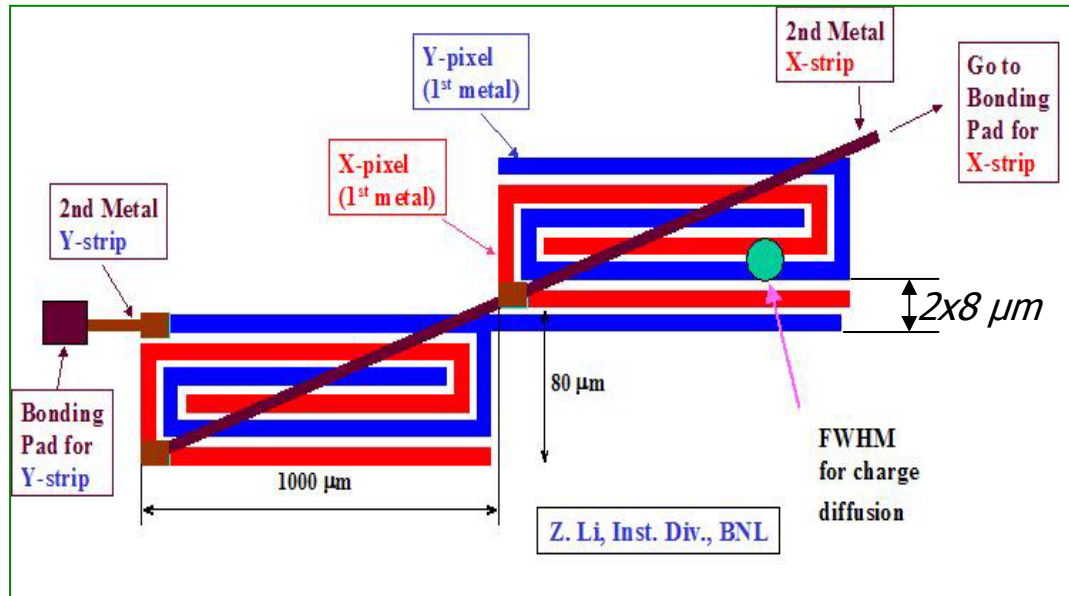
Problematic track

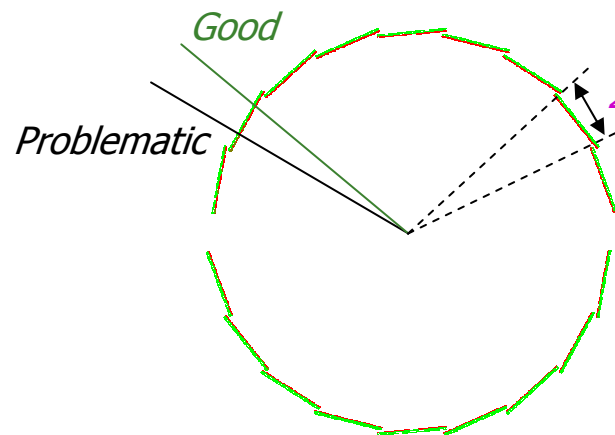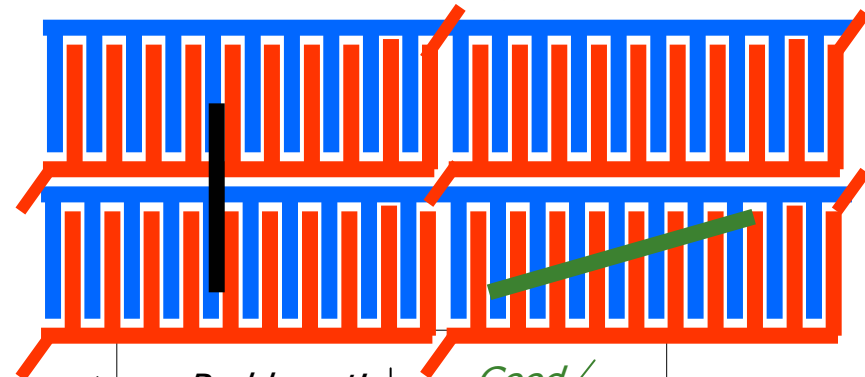Problematic tracks are those with crossing angles within:

$$\pm\omega \approx \pm 8/400 = \pm 0.02\ rad \approx \pm 1.15^O$$
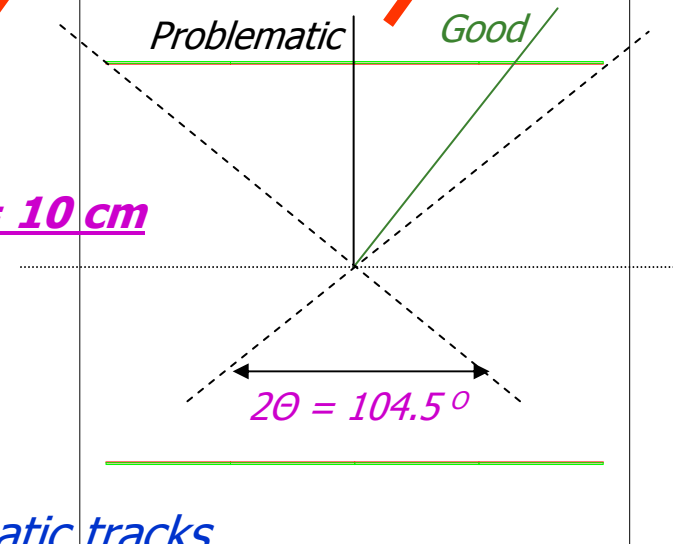
Spiral and Comb: where the difference comes from?

Spiral

Comb

For layer at R = 10 cm

Fraction of problematic tracks

$\omega/\Phi \approx 1.15/17.6 \approx \underline{6.5}\%$ $\omega/\Theta \approx 1.15/104.5 \approx \underline{1.1}\%$

The Bottom line:

- From the view point of charge sharing between *x* and *u* readouts, for the "Comb" microstructure, the fraction of problematic hits would be smaller by a factor 5-6 or more compared to the "Spiral" version.